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CORRECTED**ABSTRACT OF THE DISCLOSURE**

A method of producing a heating element made from molybdenum silicide and alloys thereof, and which includes aluminum oxide on its surface. A material is produced that contains substantially $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ and Al_2O_3 by mixing a mixture of a silicon and molybdenum compound with an aluminum compound. Either of the silicon and molybdenum compounds include $\text{Mo}(\text{Si}_{1-y}\text{Al}_y)_2$ and are mixed with one or both of an aluminum compound in the form of Al_2O_3 or $\text{Al}(\text{OH})_3$ and optionally the compounds SiO_2 , Si, and MoO_3 , or by virtue of the mixture of the silicon and molybdenum compound containing MoO_3 and Al and Si and/or SiO_2 . The input components together have a degree of purity corresponding to at least 98%. The mixture reacts exothermically and/or by being sintered, so that exchange reactions take place to form the compounds $\text{Mo}(\text{Si}_{1-x}\text{Al}_x)_2$ and Al_2O_3 , where x lies in the range of 0.4 - 0.6.